

Sunset Public Hearing Questions & Answers for  
**Tennessee Technology Development Corporation**  
Created by Section 4-14-301, *Tennessee Code Annotated*  
(Sunset termination June 2012)

*1. Provide a brief introduction to the Tennessee Technology Development Corporation, including information about its purpose, statutory duties, staff, and administrative attachment.*

The Tennessee Technology Development Corporation (TTDC) charter was signed into effect in March 1998. The organization was charged with strengthening the economy of Tennessee through the development of science and technology and to promote the development of Tennessee businesses by supporting the transfer of science, technology and quality improvement methods to private and public enterprises.

TTDC staffing currently consists of:

President/CEO  
VP, Operations  
Director, Finance  
Coordinator, Administration and Communications

For the period between July 1, 2007 and June 30, 2010, the maximum TTDC staff was as follows:

President/CEO  
VP, Operations and Strategy  
Director, Capital Formation  
Director, Finance and Reporting  
Coordinator, Administration and Communications  
Director, Policy and Compliance (part-time)

With an increased focus on innovation-based economic development by state leadership, TTDC management is working closely with the Department of Economic and Community Development to further strengthen the organizational structure of the corporation and to establish a hiring plan that best supports the state's innovation-focused economic development goals and objectives. Hiring will be limited to highly qualified personnel with extensive innovation, entrepreneur and early-stage capital program experience and management does not expect total staff to exceed 10-12 employees

Approved by the legislature in 2009, the functions of the corporation have been updated to reflect and address core requirements for strong innovation-based economic development and are provided below:

1. To contribute to the strengthening of the economy of the state through the development of science and technology and to promote the development of Tennessee businesses by supporting the transfer of science, technology, and quality improvement methods to private and public enterprises;
2. Assist in evaluating statewide innovation capacity as measured by new technology business starts, research disclosure and patent generation, venture capital availability and investment, public and private research and development expenditures, and research commercialization efforts;
3. Assist in the development, attraction and retention of diverse high-skill and high-wage jobs in Tennessee and attract prominent leaders in industry, research and education to Tennessee, ensuring the talent exists within the state to foster innovation;
4. Support and improve technology transfer and commercialization mechanisms from research organizations, universities and businesses;

5. Increase the availability of capital to perform applied research, develop technology and stimulate new technology business creation and growth in Tennessee;
6. Assist in the development of physical infrastructure required for a technology and innovation-driven economy;
7. Stimulate entrepreneurship and create an entrepreneurial culture in Tennessee;
8. Assist in establishing cooperative and collaborative associations between universities, research organizations, and private enterprises in Tennessee for the purpose of coordinating research and development programs that will aid in the creation of new products, services, and jobs in Tennessee; and
9. Provide financial assistance through contracts, grants and loans to programs of scientific and technological research and development

2. Provide a list of current members of the board of directors and describe how membership complies with Section 4-14-303, Tennessee Code Annotated. Who appoints members? Are there any vacancies on the board? If so, what steps have been taken to fill the vacancies?

TTDC board members are determined as described in the organization's amended bylaws, approved through House Joint Resolution 121 on January 22, 2009 and are as follows:

“The corporation shall be governed by a board of directors consisting of twenty-two (22) natural persons.

- Fourteen (14) members are to represent and be appointed from the private sector. Of those members, three (3) are appointed by the Governor; two (2) are appointed by the speaker of the house of representatives; two (2) are appointed by the speaker of the senate; and seven (7) are appointed by the nomination of the board of directors' nominating committee and approved by majority vote of the board of directors.
- Seven (7) members are to represent the public sector. Of those members, three (3) are appointed by the Governor; two (2) are appointed by the speaker of the House of Representatives; and two (2) are appointed by the Speaker of the Senate.
- The Commissioner of Economic and Community Development serves Ex-Officio on the Board of Directors.”

Currently, 17 of 22 board positions are filled as follows:

Current Board Members (as of 10/1/2011)

- |                                  |                                |
|----------------------------------|--------------------------------|
| • Bahou, Andre J.                | (Private, Senate Speaker)      |
| • Ballard, Tom                   | (Private, TTDC Board)          |
| • Beehan, Mayor Tom              | (Public [TML], Governor)       |
| • Doeg, Bruce                    | (Private, TTDC Board)          |
| • Evans, Dr. William             | (Private, House Speaker)*      |
| • Feinbaum, Ron                  | (Private, TTDC Board)          |
| • Fitzhugh, Representative Craig | (Public, Governor)             |
| • Frierson, Jim                  | (Private, TTDC Board)          |
| • Hagerty, Commissioner Bill     | (ECD Commissioner, Ex-officio) |
| • Humphries, Kevin               | (Private, Governor)*           |
| • Niederhauser, Mike             | (Private, Senate Speaker)      |
| • Norris, Senator Mark           | (Public, Senate Speaker)       |
| • Phillips, James                | (Private, TTDC Board)          |

- Seamons, Andrew (Private, TTDC Board)
- Short, Dr. Paula (Public, House Speaker)
- White, Representative Mark (Public, House Speaker)
- Witzeman, Dr. Stewart (Private, Governor)\*
- Open (Public, Governor)
- Open (Private, Governor)
- Open (Public, Senate Speaker)
- Open (Private, TTDC Board)
- Open (Private, TTDC Board)

*\* for re-appointment consideration by appointing authority*

Membership does comply with Section 4-14-303 in that TTDC operates with a board of twenty-two (22) members. Currently, the board is comprised of 17 members with vacancies representing open positions resulting from expired terms of service or resignation for professional reasons. Appointing authorities have been notified of members with interest in re-appointment, as well as open positions for appointment; and the process is underway to fill vacancies with attention to professional expertise in innovation, entrepreneurship and/or early-stage capital programs, as well as diversity and regional representation.

3. Does the board membership include a public/citizen member? A member who is 60 years of age or older? A member of a racial minority? A member who is female?

- Public/citizen: Seven (7) members by charter; three (3) Governor appointees, two (2) each appointed by Speaker of the House and Senate
- 60 years of age or older: Mr. Tom Ballard  
Mayor Tom Beehan  
Dr. Bill Evans  
Rep. Craig Fitzhugh  
Mr. Jim Frierson  
Rep. Mark White
- Racial minority: Ron Washington (expired board term 6/30/11)
- Female: Dr. Paula Short and, until June 15, 2010, Dr. Leslie Wisner-Lynch

4. Was an executive committee appointed as required by Section 4-14-303(h), Tennessee Code Annotated? If so, attach a list of those named to the committee.

An executive committee was appointed in 2007 in accordance with Section 4-14-303(h), Tennessee Code Annotated. The current executive committee consists of the following TTDC board members:

- Bill Hagerty, Chair (elected 8/19/11; succeeds Dr. Bill Evans, who was elected and served from 7/17/08 to 8/19/11)
- Tom Ballard, Vice-Chair
- Bruce Doeg, Secretary
- Jim Phillips
- Ted Nelson (recently expired term; serving until appointee is named)

5. How many times did the board of directors and the executive committee meet in fiscal years 2010 and 2011, and how many members were present at each meeting? Do the number of meetings of the board and the executive committee comply with Section 4-14-303(i), Tennessee Code Annotated, which limits the number of times each can meet in a calendar year?

The board of directors met four (4) times each in fiscal years 2010 and 2011 as part of the planned quarterly board meeting schedule with one (1) special called meeting in fiscal year 2010. The executive

committee met three (3) times in fiscal year 2010 and four (4) times in fiscal year 2011. Details regarding the date, purpose and number of members present for each of the meetings is provided below. All meetings were in compliance with Section 4-14-303(i), Tennessee Code Annotated.

<b>Meeting</b>	<b>Date</b>	<b>purpose</b>	<b># attendees</b>
Executive Committee	7/30/09	funding	6*
	10/8/09	funding/TNInvestco	6*
		financial status	
	4/13/10	TTDC/ECD	6*
		communications/funding	
	3/22/11	funding	5*
	5/17/11	TTDC role with ECD	6*
	6/1/11	TTDC role with ECD	6*
Board of Directors	6/17/11	budget reallocation	5*
	7/16/09	quarterly meeting	12
	10/15/09	quarterly meeting	12
	1/21/10	quarterly meeting	10
	4/13/10	quarterly meeting	13
	5/28/10	special called	11
	7/27/10	quarterly meeting	10
	10/26/10	quarterly meeting	12
	1/11/11	quarterly meeting	12
	4/7/11	quarterly meeting	13

\*including TTDC CEO

6. What per diem or travel reimbursement do members of the board of directors and the executive committee receive? How much was paid to board members during fiscal years 2005 and 2006?

TTDC does not normally reimburse members of the board of directors for per diem or travel. The only exceptions are for those board members who do not reside in Tennessee and board members who are conducting business on behalf of the Corporation at the request of the Department of Economic and Community Development. TTDC board members received \$1,441 in per diem/travel reimbursements in FY 2010 and \$777 in FY 2011.

7. What were the corporation's revenues (by source) and expenditures (by object) for fiscal years 2009 and 2010?

## **STATEMENT OF REVENUES, EXPENDITURES & CHANGES IN FUND BALANCE**

(in \$s; FY 2011 unaudited)

	2011	2010
Program Revenue		
State of TN Contract Revenue	\$ 1,196,369	\$ 2,089,298
NEXT Conference	47,461	-
<b>Total Program Revenue</b>	<b>\$ 1,243,830</b>	<b>\$ 2,089,298</b>
Operating Expenses		
Program Expenditures	\$ 602,989	\$ 1,164,464
Salaries, Wages & Benefits	436,976	932,210
General & Administrative	162,980	195,310
<b>Total Expenses</b>	<b>\$ 1,202,945</b>	<b>\$ 2,291,984</b>
<b>Net (Expenses) Revenue</b>	<b>\$ 40,885</b>	<b>\$ (202,686)</b>
General Revenue & Other Changes in Net Assets		
Interest Income	5,843	38,492
Other income	-	4,702
<b>Total General Revenue &amp; Other Changes in Net Assets</b>	<b>\$ 5,843</b>	<b>\$ 43,194</b>
Change In Net Assets	\$ 46,728	\$ (159,492)
Net Assets/Fund Balances Beginning of Period	214,584	\$ 374,076
<b>Net Assets/Fund Balances End of Period</b>	<b>\$ 261,312</b>	<b>\$ 214,584</b>

8. Are the corporation, its board of directors and the executive committee subject to Sunshine law requirements (Section 8-44-101 et seq., Tennessee Code Annotated) for public notice of meetings, prompt and full recording of minutes, and public access to minutes? What procedures do the board of directors and the executive committee have for informing the public of their meetings and making their minutes available to the public?

The TTDC board and the executive committee function under written policies and procedures to provide public notice of meetings, prompt and full recording of minutes and access to minutes. The organization has made reasonable efforts to ensure compliance with these standards. Board meeting minutes are routinely included for board review and approval (for preceding meeting) and all meeting materials are available for review upon request. Notice of meetings is provided on the TTDC website and the public is granted access to the meetings. During certain isolated times of transition to new personnel, there may have been minor gaps in compliance as the new personnel was being trained and duties clarified. Management has taken action to ensure compliance during such transition periods going forward, including adopting and revising certain policies, additional training, posting reminders to staff regarding public notice of TTDC board and executive committee meetings, as well as public hearings on the organization's annual report.

9. Does the corporation have policies in place to address potential conflicts of interest by board members, staff, or other related parties?

Yes. All board members are asked to complete a conflict of interest statement provided by TTDC management on an annual basis.

Financial transactions requiring board approval for which a board member may have interest requires board members to be identified or self-identify in order to recuse themselves from funding decisions in which they have a direct/indirect interest.

10. Has the Commissioner of Economic and Community Development promulgated rules and regulations to effectuate the purposes of the corporation as authorized by Section 4-14-309, Tennessee Code Annotated? If so, please list/cite.

No.

11. Section 4-14-304(5), Tennessee Code Annotated, requires the corporation to submit an annual report to the Governor and the General Assembly and to hold a public meeting to receive comments regarding the report. Please attach copies of the last two annual reports. When and where were the public meetings held and how was notice of the annual public hearing given? What record is kept of the public comments received at the public meetings?

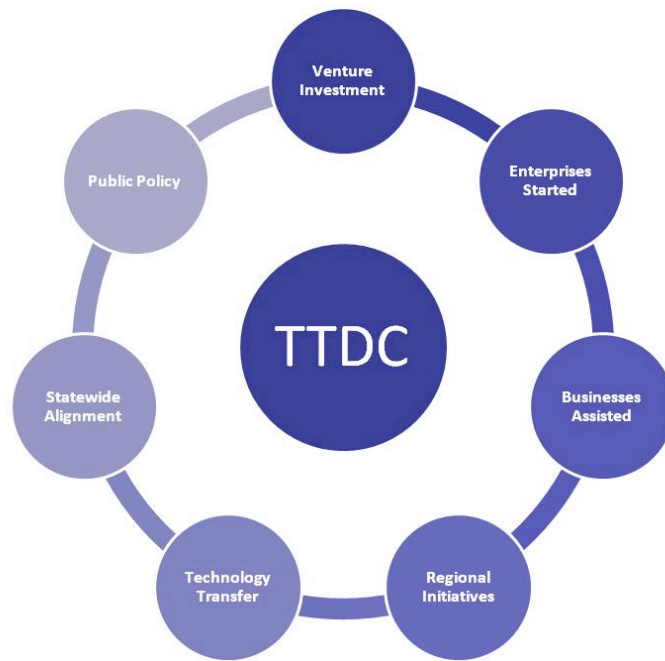
The Annual Reports for FY 2009 and FY 2010 are enclosed under separate cover. The Annual Reports have been made available to all board members, the Governor and the General Assembly. A public meeting for FY 2009 was held on February 18, 2010 (as was for FY 2008). Minutes from the public hearings are to be kept by TTDC personnel as a part of the organization's comprehensive annual record.

A public meeting was not held for FY 2010 due to transition in personnel less familiar with the required public hearing schedule. Processes are being finalized to ensure full compliance with public hearing and meeting record requirements going forward.

12. Describe the nature and extent of the corporation's activities and any major accomplishments of the past two years. Specifically, describe actions taken by the corporation to address each function detailed in Section 4-14-305, Tennessee Code Annotated.

Management is very pleased with accomplishments since the organization was re-vitalized in 2007 with funding through a \$5M endowment grant from Tennessee Department of Economic and Community Development. TTDC has strengthened the innovation network of the state through specific focus on alignment of the innovation, entrepreneurship and capital investment communities across the state with specific investments in funded programs (based on national best practices) that are essential to facilitating growth and development of a strong innovation economy. A summary of major accomplishments follows:

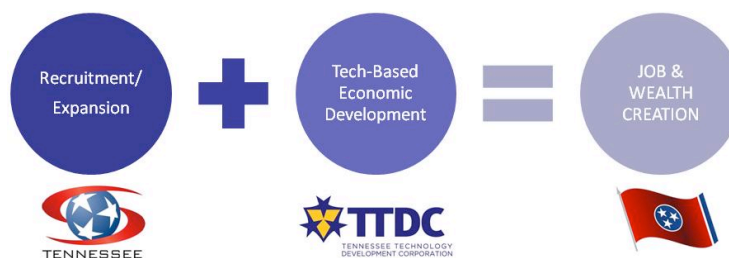
**TTDC 2007-2011: Supporting Tech-Based Economic Development in TN  
Through Strategic Focus on Research, Entrepreneurship and Capital Formation**



This summary provides several near-term and long-term economic development initiatives that TTDC and our partnership network have managed or supported in collaboration with existing research and industry in Tennessee. TTDC is tasked to serve the state's administrative and legislative leadership as an independent, trusted advisor with expertise in research and innovation, capital formation and high-growth entrepreneurship initiatives. Importantly, TTDC has established expert advisory boards – the Tennessee Strategic Research Board, the Tennessee Capital Formation Board and the Tennessee Enterprise Network – to serve state leaders as advisors on policy intended to create jobs through targeted investments in commercialized research, venture capital and business assistance services.

Many states have experimented with initiatives that have been extremely costly to taxpayers without accomplishing the transformative goals and impacts promised by program advocates. TTDC has learned from these efforts and has funded the most efficient and reputable programs with the highest likelihood of success. TTDC management is confident that immediate and sustained impact will occur with these investments and solidify an entrepreneurial/innovation support network in the state that will generate high-wage, high-growth employment opportunities.

TTDC, as the state's innovation-based economic development partner to the Tennessee Department of Economic and Community Development, is best positioned to support Governor Haslam's stated goal to make Tennessee the leading state in the Southeast for high-quality jobs. Through strong, credible leadership and a highly aligned operating structure, TTDC will continue to support focused, strategic regional investments that more effectively advance innovation and technology development to grow the state's economy and provide for long-term economic prosperity across the state.



Following early re-organizing activities to engage and align key stakeholders and thought leaders across the state, TTDC has realized success in establishing the important framework upon which key tech-based economic development strategies will continue to build, namely **strategic research**, **entrepreneurship** and **capital formation**.

These important areas of focus, supported by strategic board committees comprised of TTDC directors and thought leaders from across the state, have provided important, informed direction and strategic planning that have resulted in successful outcomes:

## **→ Enhancing Strategic Research**

### **1. Tennessee Strategic Research Board (TSRB) Formed**

Appointed by the executive committee of the TTDC board, this 15-member board is comprised of senior research officers from Oak Ridge National Laboratory and public and private universities and industries and was formed in late 2008 to develop a long-term strategic research plan for the state of Tennessee.

### **2. Strategic Research Planning Process Initiated**

With funding support from TTDC, TSRB interim director Dr. Stacey Patterson worked with TTDC staff to conduct interviews of key leaders from across the state's leading research institutions and science and technology businesses, in order to evaluate opportunities for aligning research assets with existing and emerging high-growth businesses.

*With reported results to be provided, strategic regional research planning could now be performed, aligning multiple institutions with industry to increase innovation, enterprise and workforce development. This focused alignment strategy, connecting technology enterprise with aligned research strengths at academic institutions, would provide an organized, focused "road map" that takes advantage of existing and emerging assets for growing and attracting leading science and technology businesses in Tennessee. This collaborative strategy could provide a 5-year plan for maximizing return on the nearly \$3B in federal research funding that is currently realized across the state, with an ability to leverage new collaborations for additional federal and private funding.*

### **3. Strategic research initiative successfully awarded \$20M (TN EPSCoR)**

As a significant first step in the strategic research initiative process, TTDC provided financial, management, and administrative support to two EPSCoR grant applications. In the most recent application, with direct financial and scientific writing support from TTDC, a successful federal funding outcome has been realized for the multi-institutional/industry grant proposal with an approximate funding level of \$20 million over 5 years. The lead university project leader communicated that specific staff (Dr. James Stover) from TTDC provided critical assistance in grant writing and engaging key support from industry, providing crucial features that contributed to successful funding. For roughly \$137,000 of financial investment, TTDC has helped leveraged the human, intellectual, innovation and corporate strengths of Tennessee for a total of \$20 million.

### **4. Technology Maturation Funding Supports Early-Stage Innovation**

With a technology transfer committee comprised of statewide tech transfer officers, as well as an external advisor board made up of private sector leaders, TTDC provided eighteen projects from across the state with nearly \$1,000,000 of committed funding to support high-risk, high-potential research and development activities. It is anticipated that these funds will enable the research that is needed to lead to the development of new products, services and business opportunities in Tennessee. While still early in the process, several projects have indicated potential licensing events and follow-on investment opportunities.



Awardee	Location	Amount (\$)	Start Date	Status
University of Memphis	Memphis	100,000	10/1/2009	In Process
St. Jude Children's Hospital	Memphis	100,000	10/1/2009	Tech licensed
MTSU	Murfreesboro	50,000	10/1/2009	Tech licensed
Y12 National Security Complex	Oak Ridge	100,000	10/1/2009	Tech licensed
UTRF	Knoxville	81,751	10/1/2009	In Process
UTRF	Knoxville	67,224	10/1/2009	Tech licensed
4D Medical	Oak Ridge	50,000	4/15/2011	In process
Foundation Instruments	Collierville	50,000	4/15/2011	In process
Phenotype Screening Corp	Knoxville	50,000	4/15/2011	In process
Venture Incite	Oak Ridge	50,000	4/15/2011	In process
Nutraceutical Discoveries	Knoxville	50,000	4/15/2011	In process
UTRF	Knoxville	50,000	6/30/2011	In process
UTRF	Knoxville	50,000	4/15/2011	In process
LED North America	Oak Ridge	50,000	4/15/2011	In process
Greene Turbine	Memphis	35,000	5/31/2011	In process
Work For Pie	Memphis	10,000	5/31/2011	In process
How's the Living?	Knoxville	10,000	5/31/2011	In process
Care Technologies	Nashville	10,000	5/31/2011	In process

## 5. Funding of Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)

The Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) programs are each dedicated to improving the competitiveness and success of small research and development businesses in the high technology arena. They focus on providing funding for Phase I and Phase II development. Phase I (\$200K) is considered the startup phase and awards are allotted to support exploration of the scientific, technical and commercial feasibility of an idea or technology. Phase II (\$1.5M) awards are intended to expand upon Phase I results and are used to conduct full research and development after the successful completion of a feasibility study. The SBIR/STTR initiative is a \$2B program that is administered through 11 different federal agencies, but TN receives on average only \$12.5M/yr. Therefore, TTDC's support is intended to increase SBIR/STTR grant award funding in TN by providing funding for education, training and direct grant-writing support services.

In 2008, TTDC approved \$100,000 for SBIR/STTR "phase 0" grants, providing up to \$4,000 of direct financial assistance for Tennessee applicants. After one year only, \$41,220 of the funds were utilized. Management will work with UT-IPS, UT-Knoxville and TECworks (Memphis Bioworks Foundation) to develop a mentoring and educational program (eligible for a \$100,000 SBA FAST program grant). In order to ensure adequate support to UT-IPS for the development and implementation of these programs, TTDC has provided a \$50,000 grant to support the development phase work. In addition, TTDC developed a new Phase 0 program with increased outreach in particular to the rural areas of Tennessee. TTDC's SBIR Phase 0 and Phase 00 programs that is competitive application process designed to financially support selected SBIR/STTR applicants in Tennessee. Phase 0 and Phase 00 awards (up to \$4,000 and \$8,000 of expert support for Phase I and Phase II proposal development, respectively) we designed to substantially improve the competitiveness of a small business' SBIR/STTR submission. The overall goal of the Phase 0/00 support effort is to assist Tennessee firms in achieving win rates that are at least double the national averages for Phase I and Phase II awards. After only a short period of time, TTDC has achieved an overwhelming response to the program and was fully subscribed by May 2011. This activity should double the number of SBIR/STTR awards in Tennessee in 3-5 years.

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## **Improving Entrepreneurship**

### **1. Cumberland Emerging Technologies Grant**

With an initial **grant provided by TTDC to Cumberland Emerging Technologies (\$300,000)**, an opportunity for shared research equipment was realized in a business accelerator environment important to early stage high potential entrepreneurs in middle Tennessee.

### **2. Tennessee Enterprise Network (TEN) Formed**

Appointed by the executive committee of the TTDC board, this 15-member network was formed in 2008 to develop statewide connection of organizations with expertise in entrepreneurship education or business support services for high-growth entrepreneurs. In addition to providing enhanced education and business support services, TEN partners are charged with the goal of developing a comprehensive strategic plan or shared vision for increasing the quality and consistency of business support services for the high-potential entrepreneur.



### 3. Initiated Tennessee Enterprise Network

TTDC has provided a total of \$675,000 to six TEN partners (\$270,000; \$175,000; \$100,000; \$60,000; \$50,000; \$20,000) to develop a curriculum, training materials and provide key support services to high-potential entrepreneurs. These programs and services have helped prepare entrepreneurs for three high-profile TTDC Innovation Conferences (2008, 2010, 2011), organized and supported by TTDC in partnership with TEN. In addition, multiple individual meetings with angel/venture capital investors from across the state have been facilitated by TEN partners, who will continue to play an important role in identifying high-potential business leaders, with commercially viable technologies, which may provide transformational technology for use in energy, environmental, agricultural, health/life science or informational/digital technologies. This important network of entrepreneur organization has served to form the basis of the newly announced INCITE Regional Entrepreneurial Accelerator initiative.

## → Increasing Access to Capital

### 1. Assessment of Angel Investor Best Practices

TTDC teamed with TEN partner firm the Nashville Capital Network to develop a study and report on Angel Investor Best Practices that should serve to initiate formation of a statewide angel network. Knowledge of best practices and developing networks for sharing that information serves to maximize collaboration and support for smaller investment funds.

### 2. Formation of the Tennessee Capital Formation Board (TCFB)

Appointed by the executive committee of the TTDC board, this 15-member board committee is comprised of individuals with expertise in venture capital, private equity or institutional asset management funds.

### 3. TCFB works with TN ECD/Finance to enhance TNInvestco

With a responsibility for developing a strategic plan for increasing the supply and accessibility of risk capital investment in Tennessee, the TCFB provided valuable input, working with state Commissioners from the Department of Economic and Community Development and Department of Revenue during the development of the highly anticipated TNInvestco program.

With \$200M allocated to the TNInvestco program created through legislation to fund high-growth businesses for transformational economic development outcomes, TTDC now has the opportunity to work through TEN partners to establish a strategic plan to assist, prepare, train and connect high-potential entrepreneurs (with high-potential technologies) to appropriate sources of capital in the most efficient and effective manner.

#### **4. Rural Seed Fund**

Our mission for rural entrepreneurship is to create an important sense of connectedness among rural entrepreneurs, their communities, and the best knowledge, leadership and financial capital resources in the state so we can deliver the best support services to the most promising entrepreneurs when they need it most. Therefore, the purpose of the Rural Seed Fund is to provide funding for business development and job creation in rural Tennessee communities by providing early-stage capital to entrepreneurs operating high-growth companies. Preference is given to entrepreneurs operating in the following industries: life sciences; agribusiness; environmental & energy technologies; healthcare and healthcare information technology; digital media/information technology; materials; and advanced manufacturing. TTDC has provided awards up to \$20,000 to four entrepreneurs so far in 2011. These rural entrepreneurs are currently being supported by our Tennessee Enterprise Network, which is providing resources essential for business growth - education, training, and mentorship.

Awardee	Location	Amount (\$)	Start Date
Biodimensions	Ripley	20,000	7/15/2011
Mowerplus	Shelbyville	20,000	8/15/2011
One Planet Technologies	Dandridge	20,000	5/31/2011
Secure Waters	Soddy-Daisy	20,000	6/15/2011

#### **Supporting Strategic Events**

TTDC has provided key organizational and financial support for meetings and industry events in support of tech-based economic development activities in Tennessee and engage the innovation/business/investment communities. Supporting these organizations and participating in their events, which target technology entrepreneurs, researchers and enterprises, provides an effective channel for disseminating information about TTDC programs and objectives. Sponsorship will continue to be a powerful complement to TTDC's programming strategy because it enhances our organization's image in the eyes of key stakeholders, heightens visibility of our mission and promotes the effectiveness of the collective TTDC network.

#### **Overview of Major Accomplishments**

- Re-established operations after five-year (2003-2007) period of dormancy
  1. Assembled a capable and efficient team to do "more with less"
  2. Designed strategic plan to address three areas of unmet need – venture capital funding, entrepreneurial support, and high-tech research and development

- Created state-wide partner network to fully utilize existing capabilities and strengths
  1. Empowered regional organizations to implement job creation strategies
  2. Coordinated regional activities to share best practices and connect talent, resources
- Formed boards of subject-matter experts to advise on technical policies and programs
  1. Tennessee Capital Formation Board (TCFB) – focused on capital for small businesses
  2. Tennessee Strategic Research Board (TSRB) – focused on research commercialization
  3. Tennessee Enterprise Network (TEN) – focused on entrepreneurship
- Provided expert technical assistance on design and implementation of *TNInvestco Act*
- Funded approximately \$1,000,000 in eighteen technology commercialization grants since 2009. While still early in the process, several projects have indicated potential licensing events and follow-on capital.
- Funded the assistance of 12 Phase I and 6 Phase II SBIR/STTR applicant in Tennessee which has led to multiple successful proposals and a leverage of 17:1
- Led a successful proposal funded through the National Science Foundation for \$20M to the state of Tennessee in which TTDC invested \$137,000
- Held Statewide Innovation Conferences over the last 3 years (2008, 2010, 2011) in which 40% of presenting entrepreneurs have went on to raise capital from private sector sources
- Designed entrepreneurial development resources for statewide implementation
- Provided strategic planning services for multiple regional economic development initiatives
- Funded entrepreneurial development efforts (TECWorks/Bioworks, Mercury Tech labs, ETSU Innovation Lab) to establish sharable best practices for identifying and supporting innovation
- Designed educational curriculum with Tech2020/CEG for support system to assist high-potential entrepreneurs across Tennessee
- Engaged in strategic planning for multiple regional development initiatives created to foster innovation and entrepreneurship
- Supplied micro-grants to help 20 technology entrepreneurs gain federal funding
- Host Annual Innovation Conference & Venture Showcase to highlight innovations from TN's research institutes and start-up companies
- Provide cost-share for federal grant opportunities offered through the DOE, DOD, EDA, SBA, and NSF
- Successfully aligned regional organizations to work within a systems approach for an integrated network of services for supporting business growth

13. Has the board of directors set goals and established a means to measure performance compared to those goals?

The board of directors is committed to establishing performance measures by which the organization's and management's progress may be evaluated. The ultimate goal of the corporation is to enable the private sector to create high skill, high wage jobs in Tennessee. However, job creation is a "downstream" outcome or metric by which the organization's programs could/should be evaluated and the board recognizes that there are critical, incremental goals that serve to support the long-term objective of job creation. Important incremental metrics include: increases in technology transfer and commercialization measures, increased entrepreneurial activity, increased industry/academic and research institution collaboration and increased investment in innovation-based companies in Tennessee.

Specifically, the board and management understand that the ability of the organization to be successful depends upon development of a strong strategic plan with clear goals and objectives, implementation of the plan and strong program management/oversight that regularly monitors progress toward specific goals and objectives.

In FY2011, management moved to a corporate goals-based operating structure with quarterly board meetings designed to evaluate progress on agreed upon annual goals that are developed/finalized by management and the board. This system has worked well and allows for full public accounting/transparency on programming investments and performance outcomes. This method of ongoing evaluation of program management and program outcomes allows the board to make regular recommendations for ways to enhance outcomes in advance of an annual assessment and provides oversight and accountability to state leadership that supports strong fiscal management goals.

14. What steps have been taken to protect the confidentiality of records containing trade secrets or commercial or financial information as required by Section 4-14-308, Tennessee Code Annotated?

Protection is offered as stated in the organization's enabling legislation, "Any documentary materials or data made or received by any member or employee (or affiliate) of the corporation to the extent that such material or data consists of trade secrets or commercial or financial information regarding the operation of any business conducted by an applicant for, or recipient of, any form of assistance that the corporation is, shall not be deemed public records and shall not be subject to the provisions of title 10, chapter 7" – Open Records Act.

"All applications and supporting documentary materials or data, including personal financial records, trade secrets, commercial or financial information and proprietary information of applicants, for the purpose of reviewing applications for assistance shall be confidential and exempt from the provisions of title 8, chapter 44" – Open Meetings Law.

TTDC is committed to maintaining confidentiality in dealing with clients, employees and proprietary information and has several safeguards in place to protect records containing trade secrets or commercial and financial information.

15. Describe any items related to the corporation that need legislative attention and your proposed legislative changes.

The TTDC board has identified the need to strengthen the organization's bylaws by adding detail regarding board member terms, the number of times a board member can be reappointed, the annual election of board officers and a mechanism to recognize and realize continued benefit of long-standing board members with expiring terms. The board Governance Committee is in the process of evaluating "best practices" in order to suggest changes for full board consideration and subsequent approval by the General Assembly. No legislative attention beyond these simple modifications to the organization's bylaws are anticipated or recommended at this time.

16. Should the corporation be continued? To what extent and in what ways would the absence of the corporation affect the public health, safety, or welfare?

The Tennessee Technology Development Corporation should continue and be sufficiently funded to facilitate the growth and expansion of Tennessee's innovation economy. The absence of TTDC would result in Tennessee losing many of the public benefits associated with a strong innovation-based economy – high-quality jobs, a vibrant knowledge base, economic strength, short-, mid-, and long-term growth, and wealth creation.

Strong innovation-focused economic development outcomes are dependent upon three main features in any state: 1) a commitment by high-level leadership across the public and private sectors to support a strong innovation economy; 2) sufficiently resourced and accountable organization charged with the state's innovation-focused economic development activities; and 3) highly credible, experienced management capable of leading the comprehensive programming strategies required for strong innovation-driven economic outcomes. TTDC is recognized at the national level as the state's innovation-focused economic development organization and is most ideally positioned to support the state's

innovation economy through statute established by the General Assembly and supported by state leadership. We look forward to continuing to support the original intent of the General Assembly to serve as the state's innovation-focused economic development organization that, with the Department of Economic and Community Development, satisfies the state's comprehensive economic development agenda. With the full support and confidence of state leadership, TTDC will facilitate a strong innovation economy and help make Tennessee a leading state for high-quality jobs and long-term economic prosperity.





# Annual Report to the Governor and General Assembly

November 1, 2009



## Letter from the CEO

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November 1, 2009

**The Honorable Phil Bredesen, Governor and  
Members of the Tennessee General Assembly:**

It is my privilege to send to you this annual report on the structure, operation and financial status of the Tennessee Technology Development Corporation (TTDC), a private, not-for-profit corporation created and empowered by the Legislature to foster innovation and 21<sup>st</sup> century job creation in Tennessee. This report is required by statute to be prepared and sent to you annually on November 1.

TTDC was established by an act of the Tennessee Legislature to provide new tools for statewide economic development. Following a period of operational dormancy, the organization was revitalized in September 2007 through a contract with the Department of Economic and Community Development. In accordance with the revised terms of the contract, the funds received by the organization must be expended by June 30, 2010. TTDC has embraced this opportunity to demonstrate the value proposition of state-sponsored, technology-based economic development (TBED) investments and, based on the results of our activities and accomplishments, make the case for continued state support.

As described in this report, TTDC has delivered substantial value to the state in a short period of time and with a modest commitment of public funds. In an era of tight budgets, tough fiscal choices and economic uncertainty, Tennessee needs TTDC to continue its work on improving the business climate for innovation and high-growth companies that are responsible for creating sustainable high-skill, high-wage jobs.

On behalf of the board of directors and management of TTDC, I thank you for the opportunity to serve Tennessee through this development-stage organization. We accept the challenge to earn the trust of our stakeholders – elected officials, partner organizations, scientists, technology entrepreneurs, risk capital investors and ultimately, every citizen in the state of Tennessee – such that TTDC is relied upon as a credible advisor and manager of state investments in innovation-based economic development activities.

Respectfully Yours,

Eric C. Cromwell  
President & CEO

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## Fiscal Year 2008-09 Highlights

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In competing states and nations, technology-based economic development has become an accepted and essential component of a comprehensive economic development agenda. Policy-makers and practitioners alike have concluded that new, innovation-based strategies are needed to create high-skill, high-wage jobs in the global economy of the 21<sup>st</sup> century. As such, state governments have invested billions of dollars in programs designed to leverage universities and research organizations as economic drivers, support high-potential businesses, and increase the availability and accessibility of risk capital for innovation development. These new strategies are as equally relevant and important to state economic growth as the better known industry recruitment and business expansion incentive programs.

Two important questions for stakeholders to answer are: ***Does the state of Tennessee need an economic development program specifically focused on innovation and high-growth business opportunities in the 21<sup>st</sup> century? Does the state need TTDC?***

With Tennessee officials facing brutally tough budget decisions, is TTDC a *nice to have* organization or a *must have* organization to help address the state's economic challenges and support the state's future economic prosperity and creation of 21<sup>st</sup> century jobs? Following are brief summaries of three cases where TTDC served a critical role in support of state government's economic development mission:

### 1. Served as Tennessee's expert, trusted advisor for the TNInvestco Act

TTDC supported the state's potentially transformational \$84 million capital formation program by providing expert analysis and guidance to legislators, Bredeesen Administration officials, applicants from the venture capital community, and professional services providers needed to facilitate transactions between program participants and insurance companies. In this role, TTDC fully demonstrated the value proposition of a state-supported non-profit organization providing independent, expert facilitation of policy and program development processes between government agencies and the venture capital community. In its role as the state's *trusted advisor*, TTDC

- Performed comprehensive due diligence on a proposed capital formation program, identified shortcomings and communicated alternatives to improve the legislation;
- Engaged the resident venture capital community in a constructive dialogue with the Governor's Administration to assist in the design of essential bill modifications;
- Countered unease in the venture capital community that the program would be undermined by political influence and thus not competitively evaluated;

## Fiscal Year 2008-09 Highlights

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- Advised government officials on the economic development value of emphasizing seed- and early-stage equity investments in potentially transformational businesses; and
- Assisted more than a dozen prospective applicants in understanding the legislation, performing due diligence on the unique program requirements, and developing investment strategies to deliver transformational economic development outcomes.

Without TTDC serving in its legislatively mandated role to assist the executive and legislative branches of state government, the process would not have produced the kind of state-sponsored capital formation program that will likely serve as a “best practice” model for other states to follow.

### 2. **Facilitated multi-university collaborative application for five-year, \$20 million research award from the National Science Foundation (NSF)**

In 2007, Tennessee was one of only two unsuccessful applicants for a \$15 million NSF-EPSCoR (Experimental Program to Stimulate Competitive Research) Research Infrastructure Improvement award (nine of 11 state applicants were successful). In 2009, TTDC actively engaged as a convening and aligning entity to improve the proposal development process in the following ways:

- Engaged the **Tennessee Strategic Research Board (TSRB)**, a TTDC operating committee, in a strategic oversight role to identify the scientific themes and demonstrate to the NSF that Tennessee was developing a statewide science and technology plan with the active engagement of the state’s R&D leadership;
- Identified ***alternative energy technologies*** as the central research theme after conducting multiple interviews with R&D leaders throughout the state;
- Developed and proposed an innovative ***diversity plan*** to foster participation from colleges and universities throughout Tennessee, regardless of their existing research infrastructure;
- Funded the proposal development project leader and contributed TTDC staff resources to the final proposal drafting and editing process; and
- Committed \$100,000 of TTDC funds toward the matching funds requirement of a successful application.

## Fiscal Year 2008-09 Highlights

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Tennessee needs an independent, statewide, value-adding entity to serve as the *credible broker* between regional universities that are at times more competitors than collaborators. With TTDC engaged in this role, the proposal development team is confident that the issues resulting in the 2007 failure have been addressed and that news of a successful outcome should be expected in March/April 2010.

### 3. Engaged technology transfer offices of the state's leading research institutions in pilot programs to develop and market potentially transformational innovations

Universities (Vanderbilt University, University of Tennessee System, Tennessee Board of Regents) and non-profit research institutions (Oak Ridge National Laboratory, St. Jude Children's Research Hospital) are incredible generators of innovation that could potentially spur economic growth; however Tennessee has historically underinvested in developing the business climate around these institutions as an economic development strategy. TTDC has developed two pilot programs to facilitate private-sector awareness of promising Tennessee innovations and to support small business creation from intellectual property licensed from Tennessee research institutions.

- TTDC held the first ***Tennessee Innovation Conference*** on November 20-21, 2008. The program featured educational sessions for entrepreneurs and researchers, networking for TTDC partners and stakeholders, and the featured Innovation Showcase, where more than 30 innovations from Tennessee research institutions were presented to panels of VCs, entrepreneurs and intellectual property experts to provide feedback on their commercialization strategies. A second event is being planned for May 2010.
- With a committee of program leaders from the technology transfer offices of the state's leading research institutions, TTDC developed the ***TTDC Pilot Commercialization Grant Program*** to provide "proof-of-concept" funding for high-potential innovations. Six grant awards, totaling just under \$500,000, will provide critical funding to help inventors test key assertions and help potential investors better understand the technical risks associated with these potentially transformational investment and economic development opportunities.

Without TTDC, prolific Tennessee-based scientists would have less access to timely, market-driven feedback from venture capital investors – critical input for identifying a viable path to commercialization for their potentially transformational inventions. While some research institutions do facilitate interactions between scientists and potential investors, a statewide liaison provides venture capitalists with a convenient gateway to Tennessee's \$2.5 billion R&D base – a critical value proposition when the goal is to stand out in "flyover country."

## I. Report on TTDC's Organizational Structure

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**TTDC provides an essential service to state government – strategic planning and management of programs for business climate factors that support the creation of high-wage, high-skilled jobs, primarily through the wealth-creating pursuits of inventors, entrepreneurs, corporate innovators and venture capitalists.**

Created by the Legislature in 1998, TTDC is similar in structure to many state-sponsored technology-based economic development (TBED) organizations in the U.S.:

- TTDC is a private, not-for-profit 501(c)(3) corporation created by the state but intentionally positioned outside state government.
- As a quasi-governmental, public/private partnership, TTDC can enter into certain transactions that a government agency cannot, such as financially supporting both private sector non-profit entities and for-profit businesses.
- The organization's governance systems (with 15 of its 22 board members appointed by government officials), and the organization's reliance on state funding for operations, provide an effective system of checks and balances to ensure accountability to state government for its operations.

**The purpose and mission of TTDC is defined in statutes and cannot be changed without an act of the Legislature.**

The purposes of the corporation are:

- a) To contribute to the strengthening of the economy of the state through the development of science and technology; and
- b) To promote the development of Tennessee businesses by supporting the transfer of science, technology, and quality improvement methods to private and public enterprises.

Duties of TTDC as provided in statutes:

1. Assist in evaluating statewide innovation capacity as measured by new technology business starts, research disclosure and patent generation, venture capital availability and investment, public and private research and development expenditures, and research commercialization efforts;
2. Assist in the development, attraction and retention of diverse high-skill and high-wage jobs in Tennessee and attract prominent leaders in industry, research and education to Tennessee, ensuring the talent exists within Tennessee to foster innovation;
3. Support and improve technology transfer and commercialization mechanisms from research organizations, universities and business;

## I. Report on TTDC's Organizational Structure

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4. Increase the availability of capital to perform applied research, develop technology and stimulate new technology business creation and growth in Tennessee;
5. Assist in the development of physical infrastructure required for a technology and innovation driven economy;
6. Stimulate entrepreneurship and create an entrepreneurial culture in Tennessee;
7. Assist in establishing cooperative and collaborative associations between universities, research organizations, and private enterprises in Tennessee for the purpose of coordinating research and development programs that will aid in the creation of new products, services and jobs in Tennessee; and
8. Provide financial assistance through contracts, grants and loans to programs of scientific and technological research and development.

**In late 2007, TTDC was revitalized with a commitment for a \$5 million grant from the Department of Economic and Community Development.** Although TTDC was created in 1998, the organization was operationally dormant from 2003-2007. At the time of the revitalization, for all intents and purposes, TTDC was a startup organization with a broad mission and a short timeframe to demonstrate the value of its existence to key partners and stakeholders in service to the state.



The above picture shows the primary assets of TTDC that were provided to the organization's newly appointed CEO in the fall of 2007... a 1999 Apple computer, and a checkbook to an account with \$416,000 of cash reserves. The organization had no additional staff, open positions on its board of directors and no existing programs or partnerships.

## **I. Report on TTDC's Organizational Structure**

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### **A. Contract with Department of Economic and Community Development**

TTDC is intended to be a private-sector-led organization for innovation in economic development, but whose operations are dependent upon state funding – currently derived from a \$5 million endowment grant contract from the Tennessee Department of Economic and Community Development. The contract term commenced October 1, 2007, and, with a recently approved one-year extension, ends June 30, 2010. The contract scope of services matches the organization's mission as outlined in statutes.

### **B. Board of Directors**

TTDC is governed by a 22-person board of directors. As of November 1, 2009, there were three vacancies and/or members serving with expired terms on the board.

By design and law, 14 of the board members are to be appointed from the private sector – three are appointed by the governor, two each by the speaker of the house and the speaker of the senate, and seven by the TTDC board. Seven board members are to be appointed from the public sector – three by the governor and two each by the speaker of the house and the speaker of the senate. Of these board members, one of the governor's appointees is to be selected from a slate of three candidates provided by the Tennessee Municipal League or the Tennessee County Services Association. Mayor Bill Haslam of Knoxville fills this seat on the board.

Dr. William Evans, CEO and Director of St. Jude Children's Research Hospital, was elected chair of the board by members present at the July 17, 2008 board meeting and was subsequently approved by unanimous consent by all active board members. Dan Marcum is immediate past-chair and remains a member of the board.

The board has an executive committee charged with administering the day-to-day operations of TTDC. Dr. Evans chairs this five-person committee. The board is in the process of nominating members to serve on two additional oversight committees – audit and compliance; and governance and organization.

The TTDC board has created four strategic operating committees that have certain characteristics of stand-alone boards. Two of these committees have been organized and have held meetings, and two will be organized during the current fiscal year. These committees are intended to provide thought leadership and strategic direction on complex issues affecting economic growth in the 21<sup>st</sup> century. The committees include TTDC directors, as well as individuals recognized throughout the state for their specific expertise. Through this organizational structure, TTDC maintains a relatively small staff while aspiring to retain highly competent professionals with the ability to interact with scientists, venture capitalists and technology entrepreneurs as respected peers.



## I. Report on TTDC's Organizational Structure

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### TTDC Board of Directors, as of November 1, 2009:

#### ***Ex Officio***

Matt Kisber  
Commissioner  
Tennessee Dept. of Economic and Community Development

#### ***Appointed by Governor, public sector***

Bill Haslam	Craig Fitzhugh	Ron Washington
Mayor	Representative	Councilman
City of Knoxville	Tennessee General Assembly	Murfreesboro City Council

#### ***Appointed by Governor, private sector***

Kevin Humphries	Kenneth Holroyd, MD, MBA	J. Stewart Witzeman, Ph.D.
SVP, Technology Systems	Asst. Vice Chancellor, Research	Director, Research Division
FedEx Services	Vanderbilt University	Eastman Chemical Company

#### ***Appointed by House Speaker, public sector***

Mark Maddox	Paula Short, Ph.D.
Representative	Vice Chancellor, Academic Affairs
Tennessee General Assembly	Tennessee Board of Regents

#### ***Appointed by House Speaker, private sector***

William Evans, Pharm. D.*^	Ted Nelson^
Director & CEO	Chairman
St. Jude Children's Research Hospital	Mill Masters, Inc.

#### ***Appointed by Senate Speaker, public sector***

Randy McNally	J. Daniel Stewart, Ph.D
Senator	Associate Vice President for Research
Tennessee General Assembly	The University of Tennessee, Knoxville

#### ***Appointed by Senate Speaker, private sector***

Dan Marcum	Mike Neiderhauser
Managing Partner	Owner
Marcum Capital	MN Rentals

#### ***Appointed by TTDC Board of Directors***

Thomas Ballard^	Bruce Doeg^	Jim Frierson
Director, Partnerships Directorate	Chair, Business Dept.	Executive Director
Oak Ridge National Laboratory	Baker Donelson	ATTI
James Phillips^	Andrew Seamons	Leslie Wisner-Lynch, DDS, DMSc
CEO	Managing Partner	Executive Director
Pinnacle Enterprises	Pittco Capital Partners	BioTN Foundation

\* TTDC Board Chairman

^ Executive Committee Member

## I. Report on TTDC's Organizational Structure

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### C. Operating and Oversight Committees

1. The **TN Strategic Research Board (TSRB)** advises and directs TTDC investments that support and grow the technology research base in Tennessee; facilitates sponsored research between private sector companies and universities; and increases the flow of innovations from laboratories to the private sector.

#### Members of the Tennessee Strategic Research Board, as of November 1, 2009:

James Downing, MD Scientific Director St. Jude Children's Research Hospital	Dennis Hall, Ph.D Vice Provost of Research Dean of the Graduate School Vanderbilt University	James Townsel, Ph.D Interim VP of Research Meharry Medical College
David Millhorn, Ph.D Executive Vice President and Vice President of Research University of Tennessee System	James Roberto, Ph.D Director of Strategic Capabilities Oak Ridge National Laboratory	

#### Representing TTDC:

James Frierson, Advanced Transportation Technology Institute  
Kenneth Holroyd, MD, Vanderbilt University Medical Center  
Leslie Wisner-Lynch, DDS, DMsc, BioTN Foundation  
Dan Stewart, Ph.D., University of Tennessee System  
Stewart Witzeman, Ph.D, Eastman Chemical

2. The **TN Capital Formation Board (TCFB)** advises on state policies and investments that increase the supply and accessibility of risk capital investment for high-potential technology businesses.

#### Members of the Tennessee Capital Formation Board, as of November 1, 2009:

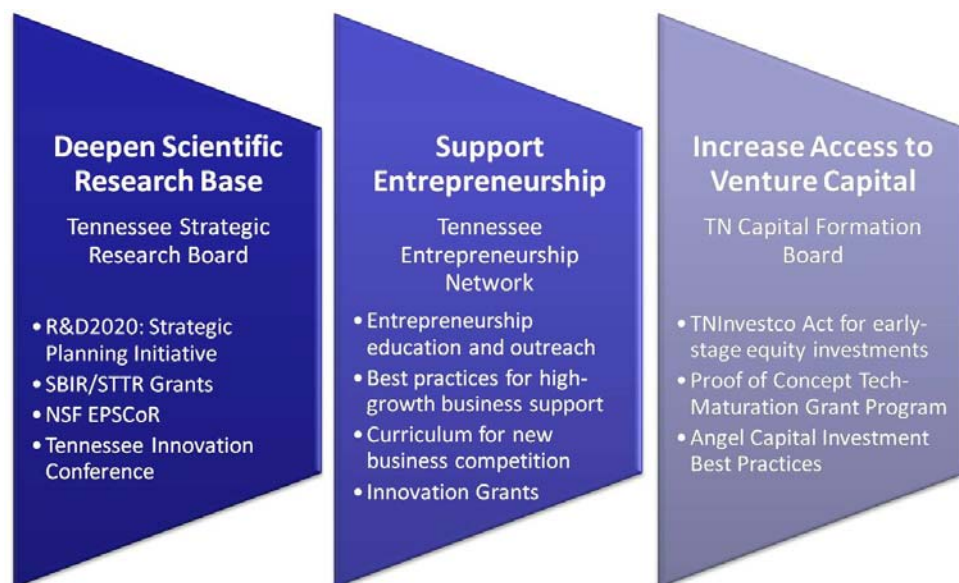
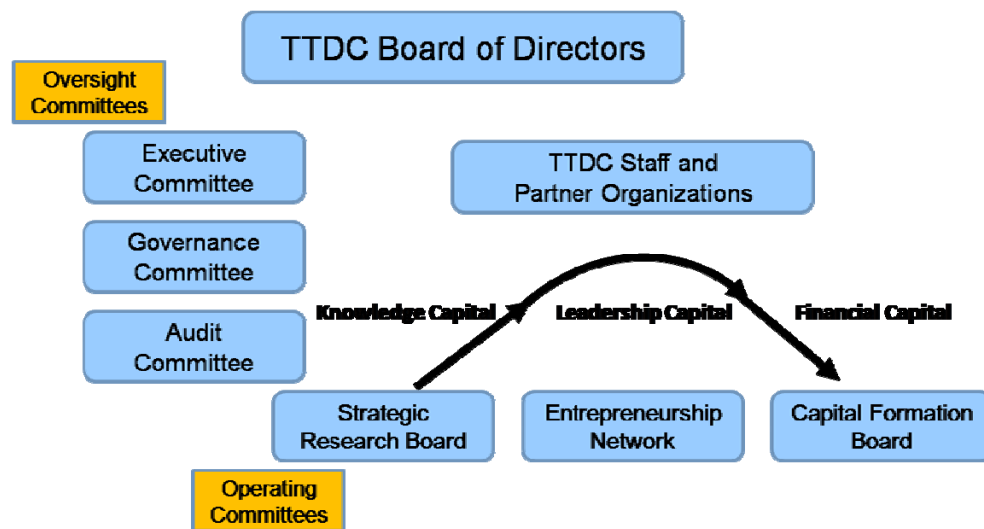
Michael Blackburn Managing Partner Petra Capital Partners	Michael Devlin Co-Founder, Managing Partner Pharos Capital Group	Townes Duncan President Solidus
Kathy Harris Partner Noro-Moseley	Chris Kyriopoulos Co-Founder & Principal Compound Funds	Gary Stevenson Managing Partner MB Venture Partners
Grady Vanderhoofven Fund Manager Meritus Ventures	Casey West General Partner SSM Partners	Tom Wylly Senior Partner Brentwood Capital

#### Representing TTDC:

Bruce Doeg, Baker Donelson  
Dan Marcum, Marcum Capital  
Jim Phillips, Pinnacle Enterprises  
Andrew Seamons, Pittco Capital Partners

## I. Report on TTDC's Organizational Structure

3. The **TN Entrepreneurship Network (TEN)** will create a statewide network of entrepreneurship support systems that serve a general public interest and identify high-potential technology entrepreneurs for customized support services.
4. The **TBED Partners & Stakeholders Board (TPSB)** will ensure that TTDC resource allocation decisions are fully informed by the leaders of established organizations in Tennessee that are engaged in technology-based economic development (TBED) activities.



## I. Report on TTDC's Organizational Structure

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### D. Management Team

TTDC management intends to maintain a small organizational headcount while leveraging the operational capabilities of existing agencies providing technology-based economic development programs and services throughout Tennessee and supporting the development of new capabilities in underserved regions. With this leveraged operations plan, TTDC will rarely perform the services of the “customer facing organization.” Instead, TTDC is positioned to manage strategic state investments in TBED programs and services operated by organizations that leverage federal funds or regional philanthropy and aspire to meet the highest operations and performance standards for peer organizations. As a statewide organization designed to convene, align and catalyze, TTDC can be an effective instrument to end local and regional fragmentation that limits results and endangers significance.

**Eric Cromwell** is President and CEO of TTDC. Previously, Eric served as the state's first Director of Technology Development within the Tennessee Department of Economic and Community Development. During his time in state government, Eric held leadership roles in a range of programs and projects as the Bredesen Administration began a comprehensive process to review new, technology-based development strategies targeted at fostering innovation. Eric began his career in technology-based economic development in Memphis as the founding director of EmergeMemphis, a technology business incubator, and later as the founding associate director of the FedEx Institute of Technology, a public-private initiative established to support advanced research and higher education.

**Dan Schmisser** is Vice President with responsibilities for TTDC's operations and strategy. Dan joined TTDC in June 2008 following a five-month consulting engagement during which he helped design TTDC's development-stage strategy. Previously, Dan had worked as vice president of strategy and policy with the Kansas Technology Enterprise Corporation, a public-private partnership that served as a model for the legislative creators of TTDC. Dan began his career as a CPA with Price Waterhouse in Cincinnati, launched an entrepreneurial venture in Austin in 2000 that he owned and operated for four years, and learned the fundamentals of technology-based economic development while working as a consultant on projects with the IC<sup>2</sup> Institute at the University of Texas at Austin.

**Kristen Anderson, J.D.**, is Director of Policy & Compliance for TTDC with responsibilities for corporate governance systems, contractual and other legal arrangements and policy-level communications. Previously, Kristen was an associate attorney with Baker, Donelson, Bearman, Caldwell & Berkowitz, PC, in the firm's Nashville office and a member of the firm's State Public Policy practice group. Kristen is a graduate of the University of Tennessee, cum laude, and of the University of Tennessee College of Law, cum laude, where she served as Editor of Student Materials for the Tennessee Law Review and as a staff writer for the Tennessee Law Business Journal. While in law school, Kristen also served as research assistant to Professor Glenn Harlan Reynolds and was awarded the Charles Henderson Miller Award of Excellence in Civil Advocacy. She is trained as a Nashville Adult Literacy Council tutor

## I. Report on TTDC's Organizational Structure

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for GED-candidate students and is a member of the Board of Directors of Calvary Young Children's School.

**James Stover, Ph.D.**, is Director of Capital Formation for TTDC and responsible for the TTDC Technology Maturation Fund Initiative and for developing programs and services overseen by the Tennessee Capital Formation Board. Prior to joining TTDC, James was a life science and technology analyst with Square 1 Bank in San Diego, CA, and a senior research fellow in medicinal chemistry at the Scripps Research Institute. He has consulted with a number of early-stage companies in the areas of capital formation and management recruitment. He is a member of the Southeast Venture Group and serves on a public policy committee for the National Association of Seed and Venture Funds. James holds a B.S. in Biochemistry from the University of Virginia and a Ph.D. in Chemistry from Vanderbilt University, where he was a National Institute of Health Grant recipient. As a member of the Vanderbilt football team, James was also a First-Team Academic selection in the Southeastern Conference.

**Steve Wonsiewicz** is Director of Finance & Reporting for TTDC and has nearly 20 years of experience working for financial services and B2B publishing companies in the U.S., Great Britain and the Netherlands. Prior to joining TTDC, Steve worked as a portfolio manager for an independent financial advisor and as a relationship manager in the commercial banking department for a national bank. Before that, he was co-founder of American Hometown Publishing, a community newspaper publisher based in Franklin, TN. Steve also is a member of the Board of Directors for Tennessee Voices for Children, a non-profit advocacy group involved with children's mental health issues. Steve holds a M.B.A. in Finance from the University of San Francisco and a B.S. in Communications from the University of Tennessee, Knoxville.

**Julia Landrum** is Administrative & Communications Coordinator for TTDC. She manages office and administrative processes and is responsible for strategic communications. Previously, Julia was as an account executive for Marke Communications, a communications firm in New York City specializing in direct marketing. She interned with global public relations firm Burson-Marsteller in the Washington, DC, office and in the sales and marketing department of wireless service provider Cellular South. She received her B.A. in Communication from Mississippi State University, where she graduated summa cum laude.

## II. Report on TTDC's Operations

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TTDC operations were revitalized with a \$5 million funding contract and an agreed upon goal by Governor Bredesen, Department of Economic and Community Development Commissioner Matt Kisber, and TTDC Directors: demonstrate the value proposition of state support for innovation-based economic development investments, with TTDC as the state's trusted advisor.

The TTDC management team refers to the ECD contract as a "Series A" investment, borrowing from venture capital parlance to describe a small, limited scope investment that *"is intended to capitalize a company for six months to two years as it develops its products, performs initial marketing and branding, hires its initial employees, and otherwise undertakes early stage business operations."*<sup>1</sup>

Following a strategic planning process with directors, TTDC launched its development-stage-operations strategy one year ago. This strategy has three components: A) focus on core segments – strategic research, capital formation and high-growth entrepreneurship; B) partner with regional organizations whenever possible to leverage work and minimize duplication; and C) invest in a portfolio of projects.

### A. Three Core Segments of Innovation-Based Economic Development

Innovation-based economic development is complex in part because it involves working at the intersections of very different industries with very different cultures and perspectives. The academic community is different from the venture capital community, and the entrepreneurial community can be described as aspiring to fit in with academics and venture capitalists, as well as corporate leaders, government leaders and civic leaders... and generally feeling misunderstood by all of the above.

Counter intuitively, TTDC has sought to simplify operations by adding a layer of complexity to its governance systems. TTDC has three operating committees that each focuses on one of the core segments:

1. **Strategic Research** – The objective of the Tennessee Strategic Research Board operating committee is to deepen the R&D base statewide through the support of strategic initiatives that **leverage** existing research infrastructure and **align** key organizations on an economic development competitiveness agenda;
2. **Venture Capital Formation** – The Tennessee Capital Formation Board is focused on increasing the **supply** and **accessibility** of risk capital investment for high-growth Tennessee companies; and
3. **High-Potential Entrepreneurship** – The Tennessee Entrepreneurship Network, which will be organized by early 2010, will be tasked with supporting and developing the social and professional networks that **connect** high-potential entrepreneurs to the knowledge capital and **leadership capital** that significantly improves the expected success rates of high-growth entrepreneurial ventures.

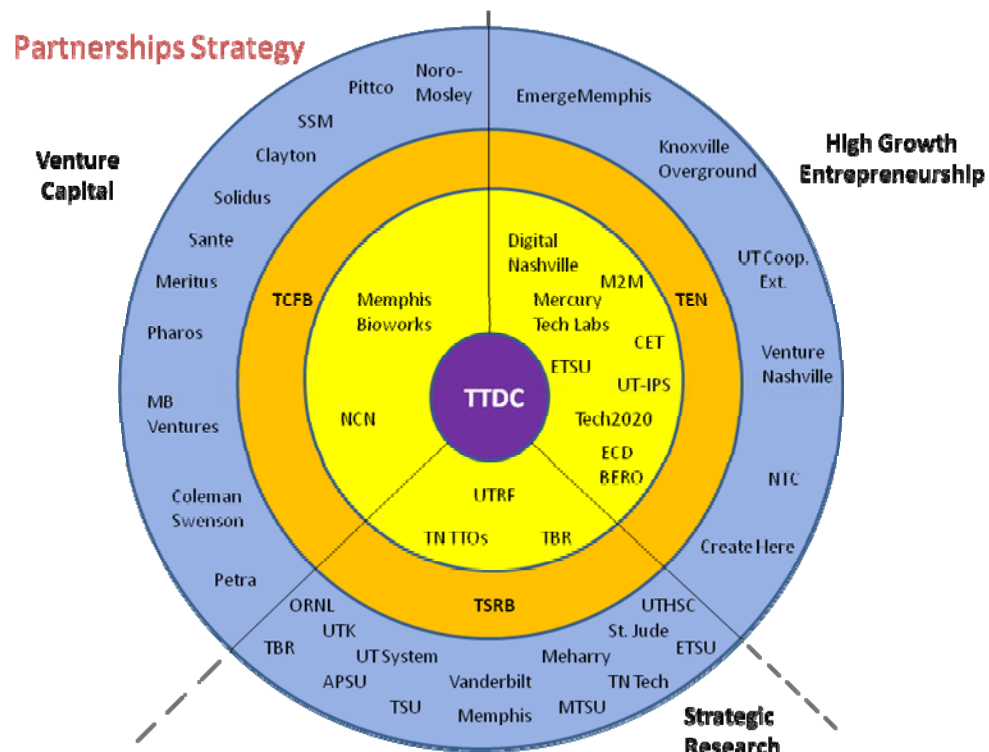
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<sup>1</sup> [http://en.wikipedia.org/wiki/Series\\_A\\_round](http://en.wikipedia.org/wiki/Series_A_round)

## II. Report on TTDC's Operations

### B. Partnerships with Established Regional Organizations

An organization with limited funds and a short timeframe to prove value must quickly build relationships and leverage existing capabilities and resources wherever possible. Fortunately, Tennessee has some highly capable organizations that, prior to TTDC's revitalization, have served their regions effectively – and with very little state support.



The role many TTDC board members aspire for the organization to serve is as a convener for and a unifier of the many organizations in the public and private sectors that support innovation-based economic development. They believe that state government needs TTDC to effectively manage dozens of relationships across the state and in the three core segments. They point to complexity and fragmentation as the reasons why Tennessee has historically underinvested in innovation-based initiatives as a core economic development strategy.

TTDC has established or is in the process of establishing the following formal subcontractor relationships with several organizations across Tennessee:

- **Memphis Bioworks Foundation** – TTDC committed \$270,000 over 18 months to fund the development of **TECworks**, a subsidiary whose mission is to enable aspiring entrepreneurs and emerging companies in technology and biosciences by providing experience-based education and business services.



## II. Report on TTDC's Operations

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- **Technology 2020/CEG** – With TTDC funding, the Center for Entrepreneurial Growth at Tech 2020 developed an entrepreneurship curriculum for aspiring entrepreneurs to learn basic fundamentals of presenting a new venture to potential investors. This curriculum can be used in a workshop format in local and regional events participating in a statewide business plan competition.
- **University of Tennessee Research Foundation** – TTDC has contracted with UTRF for one of its employees, Dr. Stacey Patterson, to manage the development of a state science and technology strategic plan called *R&D 2020*. Dr. Patterson has also contributed to the management of the statewide collaboration to apply for a \$20 million NSF EPSCoR Research Infrastructure Improvements grant.
- **East Tennessee State University** – TTDC will enter into a contractual relationship with ETSU for an employee, Rayford Johnson of the Innovation Lab, to serve as interim director of the Tennessee Entrepreneurship Network.
- **Nashville Capital Network** – TTDC engaged NCN to provide expertise on a project to identify and communicate the best practices of “angel investors” – individuals who invest personal funds in seed or early stage high-growth businesses. An indirect outcome from this effort has been NCN’s development of the Tennessee Capital Network, a finalist for a TNInvestco Act allocation.
- **Mercury Technology Labs** – Recognizing that numerous organizations across Tennessee were developing entrepreneurship-support programs without the benefit of coordination or shared knowledge best practices, Mercury has been engaged to leverage its work to develop the *LaunchMemphis* program to share and learn from similar initiatives from organizations such as *CreateHere* in Chattanooga, *Knoxville Overground* and *Will This Float?* in Johnson City.
- **UT Space Institute** – Under a proposed subcontractor agreement, UTSI allowed for one of its employees, Dr. Greg Sedrick, to serve as project manager for the NSF EPSCoR grant proposal team.

### C. Investment in a Portfolio of Innovation-Based Economic Development Projects

With the board’s encouragement, TTDC developed a portfolio of 12 programs that could be leveraged by future state investments to deliver economic development value to Tennessee. These potential programs were described in the organization’s 2008 Annual Report to the Governor and General Assembly.

One advantage of managing a small organization is the ability to nimbly refocus resources as needed. In response to the introduction of capital formation legislation by companies from outside Tennessee, TTDC shifted a substantial amount of its attention to working through the Tennessee Capital Formation Board to advise the Bredesen Administration and members of the General Assembly on the mechanics of



## II. Report on TTDC's Operations

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the originally proposed legislation, the results of other states that have experimented with similar programs, the core principles of effective state-sponsored capital formation programs, and specific methods for improving the introduced bill into an effective program for Tennessee.

The net result of TTDC's performance as the state's trusted advisor in the TNInvestco Act is legislation that could truly deliver transformational economic development outcomes for Tennessee.

- A minimum of \$84 million of capital will be managed by up to six venture capital funds specifically targeting seed- and early-stage investments in small businesses with the potential to achieve transformational outcomes through the creation of wealth and high-paying jobs.
- There were 25 TNInvestcos certified by the state (each submitting \$7,500 with the application) that submitted a request for at least one of six allocations of \$20 million of deferred insurance premium tax credits. The competitive process for which TTDC successfully advocated yielded creative proposals in which several applicants have pledged to make supplemental investments or contributions to support the development of entrepreneurship ecosystems in Tennessee.
- The originally proposed legislation would have resulted in a significant financial loss to the state, as participating investors would have retained 100% of the fund value after making the minimum number of required investments. Based on consultations with TTDC, the state's Commissioner of Revenue proposed bill modifications that allow the state to retain 50% of the fund values upon liquidation. Based on the Commissioner's projections, the net result was a bill that is expected to have a neutral fiscal impact to the state while delivering substantial value to the state's economy.

TTDC continues to invest in demonstration projects to support strategic research and high-growth entrepreneurship and will be reporting on the results of these projects during the 2010 Legislative Session. There continue to be many opportunities for the state to make strategic investments that support the business climate for home-grown, high-growth businesses that produce high-wage jobs.

Whether or not the state continues to support innovation-based economic development initiatives through TTDC, our board and management team believe that the state has received an exceptional return on its "Series A" investment in the revitalization of TTDC. In its work on the TNInvestco Act, TTDC effectively championed the best interests of the state, successfully advocated for the state to retain tens of millions of dollars of economic value that otherwise would have left the state, and successfully encouraged that the program be designed to target seed and early stage equity investments high-growth small businesses – a current gap in the continuum.

### **III. Report on TTDC's Financial Status**

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At the time of its revitalization, TTDC had \$416,000 of retained funds. The ECD endowment grant provided \$5 million of funds to invest in mission-related programs and operations during the contract term, which ends June 30, 2010. If TTDC is to continue operations beyond this date, the organization will need to have additional state funds appropriated during the 2010 Legislative Session.


As of September 30, 2009, TTDC has approximately \$3.2 million of cash on hand, of which approximately \$2.8 million is related to the current contract with ECD.

At the end of the contract term, the organization forecasts having used \$2.65 million of the ECD grant proceeds on direct program expenditures and \$2.35 million for general and administrative expenditures.

### Sample of Recurring State Budget Appropriations for Technology-Based Economic Development Programs\*

- **Arkansas** (population = 2.9 million)
  - Arkansas Science and Technology Authority = \$4.0 million
- **Georgia** (pop. = 9.7 million)
  - Georgia Research Alliance = \$26.2 million
  - Advanced Technology Development Center/Economic Development Institute = \$24.8 million
- **Kentucky** (pop. = 4.3 million)
  - Kentucky Dept of Commercialization and Innovation = \$8.5 million
- **Maryland** (pop. = 5.6 million)
  - Maryland Biotechnology Center = \$4.7 million
  - Maryland Technology Development Corporation = \$3.7 million
  - Maryland TEDCO stem cell research fund = \$15.4 million
- **Mississippi** (pop. = 2.9 million)
  - Mississippi Technology Alliance = \$0.75 million
- **North Carolina** (pop. = 9.2 million)
  - North Carolina Biotechnology Center = \$14.8 million
- **Kansas** (pop. = 2.8 million)
  - Kansas Technology Enterprise Corporation = \$7.0 million
  - Kansas Bioscience Authority = \$40.0 million
- **Ohio** (pop. = 11.5 million)
  - Third Frontier Fund = \$61.0 million
  - Thomas Edison Program = \$15.8 million
  - Biomedical Research and Technology Transfer Program = \$1.3 million
- **Pennsylvania** (pop. = 12.4 million)
  - Ben Franklin Technology Development Authority = \$20.0 million
  - Pennsylvania Life Sciences Greenhouses = \$3.0 million

\*Does not include onetime funding appropriations for special initiatives



# TURNING TODAY'S IDEAS INTO TOMORROW'S JOBS

## Annual Report to the Governor and General Assembly



November 1, 2010

This project is funded under an agreement with the state of Tennessee



## Letter from the CEO

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November 1, 2010

**The Honorable Phil Bredesen, Governor and  
Members of the Tennessee General Assembly:**

It is with great privilege that I provide you the annual report on the operations, structure and financial status of Tennessee Technology Development Corporation (TTDC), a private, not-for-profit corporation created by the Legislature to foster innovation and 21<sup>st</sup> century job creation in Tennessee. This report is required by statute to be prepared and sent to you annually on November 1 of each year.

As you may recall, TTDC was established by an act of the Tennessee Legislature to implement and manage technology-based economic development services on behalf of the state. Following a period of operational dormancy, TTDC was revitalized in September 2007 with a \$5 million endowment grant from the Department of Economic and Community Development (ECD), a contract that expired on June 30, 2010. At the time of this report, TTDC has since entered into a one-year \$1.5M reimbursement grant contract with ECD and is in active discussions with regard to investing approximately \$720,000 in carry-forward funds remaining from the previous contract.

The state's continued support represents a significant vote of confidence in TTDC and better positions our organization to work in partnership with ECD as the state's lead agency aligning efforts to enhance technology-based economic development in Tennessee; and for that support we are extremely grateful to you, Governor, members of the Tennessee General Assembly, and ECD Commissioner Matt Kisber and his team.

Over the past year TTDC has made impressive strides in aligning state resources and key partners to strengthen Tennessee's competitiveness in the areas of Strategic Research, Entrepreneurship and Capital Formation. The impact of these efforts are outlined in this report.

TTDC recognizes, however, that it must be continually looking ahead in order to ensure the state's investment in our organization produces long-term dividends. To that end, TTDC, under a new leadership comprised of dedicated, existing team and board members, has implemented – with ECD's enthusiastic support – a programming strategy that is even more robust with clear financial and mission-based accountability. This goals-focused corporate approach aligns with state investment expectations and will allow TTDC to carry out a program that establishes clear goals and objectives which will have a sustainable impact on science and technology business development and jobs growth, scientific research funding and, ultimately, wealth creation in Tennessee.

On behalf of the board of directors and management of TTDC, I thank you for the opportunity to serve Tennessee and look forward to continuing the momentum from fiscal year 2010 and positioning TTDC for even great achievements in the years ahead, ultimately benefiting the citizens, businesses and state of Tennessee.

Respectfully Yours,

A handwritten signature in blue ink, appearing to read "Leslie A. Wisner-Lynch", with a long, sweeping horizontal line extending to the right.

Leslie A. Wisner-Lynch, DDS, DMSc  
President and CEO

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## TTDC Operations Overview & FY 2010 Highlights

This report marks the end of an important time period in the revitalization of Tennessee Technology Development Corporation (TTDC) and represents the beginning of an exciting new era as the organization transitions from key infrastructure development to robust program implementation, grounded in clearly defined goals and measureable objectives. We are mindful that TTDC, and the collaborative efforts of our partners from across the state, must be successful if Tennessee is not only to participate but serve as a leader in this global, knowledge economy in which we operate.

High-skill, high-wage jobs that require professional, technical or managerial training are projected to provide some of the greatest employment opportunities over the next decade, a direct result of an increasing demand for more effective and efficient energy, security and health-related products and services. Through our program areas of Strategic Research, Entrepreneurship and Capital Formation, TTDC provides focused alignment and investment that will result in the creation and expansion of science and technology businesses in Tennessee.

1. Strategic Research – One of TTDC’s guiding principles is its commitment to supporting, growing and connecting the state’s scientific research base, which is home to world-renowned research universities and R&D organizations such as Oak Ridge National Laboratories and St. Jude Children’s Research Hospital. By working closely with our expert partners, TTDC helps increase the availability of funding to perform applied research, develop new technology and stimulate business creation and job growth in Tennessee.
2. Entrepreneurship – TTDC is dedicated to building a vibrant entrepreneurial culture within the state and maximizing the potential of entrepreneurs who are building high-growth science and technology-oriented businesses. The centerpiece of this effort is the Tennessee Enterprise Network (TEN), a program designed to effectively and efficiently identify, nurture and support entrepreneurs and small-business owners who need the financial and leadership capital to grow their companies.
3. Capital Formation – Access to capital is one of the most crucial elements in the success of high-growth, research-driven ventures. Connected to a leadership network of the most influential financial professionals and business advisors in the state, TTDC plays a pivotal role in facilitating the increase of investment capital and research and development grants to help finance entrepreneurial and high-growth companies in the science and technology industries.

## TTDC Accomplishments In 2010

During the past year, TTDC ably demonstrated significant progress in establishing and advancing its core program infrastructure. Listed below are several examples of how TTDC’s program investments had a positive impact on Tennessee’s economy:

- **Strategic Research**

### TTDC Aligns Research Assets To Help Win \$20M Alternative Energy Research Grant

As a significant first step in TTDC’s Strategic Research initiatives, our organization provided financial, management and administrative support to two EPSCoR grant applications. In the most recent

application, with direct financial and scientific writing support from TTDC, a successful federal funding outcome has been realized for the multi-institutional/industry grant proposal with an approximate funding level of \$20 million over five years. The lead university project leader communicated that specific staff from TTDC, namely Dr. James Stover, provided critical assistance in grant writing and engaging key support from industry, which in turn provided crucial features that contributed to successful funding. For roughly \$137,000 of financial investment, TTDC has helped leveraged the human, intellectual, innovation and corporate strengths of Tennessee for a total of \$20 million.

#### TTDC Rolls Out Inaugural \$500K Technology Maturation Fund

With a technology transfer committee comprised of statewide tech transfer officers, TTDC provided six projects from across the state with nearly \$500,000 of funding to support high-risk, high-potential research and development activities. It is anticipated that grants from TTDC's Technology Maturation Fund will provide essential financing to support the level of research required to advance the development of innovative new products, services and business opportunities in Tennessee. While still early in the process, three of the six projects have received interest from the private sector indicating the potential for licensing revenue and/or future equity investment.

TTDC's Technology Maturation Fund grants provide scientists at some of Tennessee's leading private and public research institutions with crucial financial support to prove the commercial viability of their work. Listed below is a brief overview of the innovative research projects funded by TTDC:

**Grantee: St. Jude Children's Research Hospital**

**Project:** Lymphoma Treatment

**Description:** St. Jude Children's Research Hospital is working to develop a highly quantitative assay for the detection of activating mutations in the Anaplastic Lymphoma Kinase (ALK) gene that gives rise to many adult and pediatric cancers.

**Grantee: Y-12 National Security Complex**

**Project:** Product-Strengthening Nano-Materials

**Description:** Y-12 National Security Complex is working to develop novel nano-materials that provide a quantum improvement in product strength and weight. The technology produces innovative materials and a breakthrough process that have a number of commercial applications.

**Grantee: Middle Tennessee State University**

**Project:** Hybrid Car Retrofit

**Description:** Middle Tennessee State University (MTSU) is working to develop an economic retrofit kit with plug-in hybrid capability that will turn a standard car into a hybrid one. MTSU's novel bolt-on clam shell electric motor design requires no alternations to the vehicle drive train.

**Grantee: University of Memphis**

**Project:** Electrochemical Biosensors

**Description:** The University of Memphis is working to develop an electrochemical biosensor (a device that recognizes and measures an analyte in a sample) that directly measures the concentration of the drug propofol in the blood and controls its delivery.



## TTDC Operations Overview

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Grantee: **University of Tennessee Research Foundation**  
Project: Hydrocarbon-Based Membranes  
Description: The University of Tennessee Research Foundation is working to develop a lower-priced, higher-performance alternative membrane for the fuel cell market.

Grantee: **University of Tennessee Research Foundation**  
Project: Cellular Polymeric Foam  
Description: The University of Tennessee Research Foundation is working to develop a new method for producing low- and high-density polymeric foam using a manufacturing technique (microwave instead of steam) that greatly reduces the manufacturing time, energy, space and equipment.

- **Capital Formation**

### Tennessee Increases TNInvestco Program To \$200M From \$120M

Working with the Department of Economic and Community Development (ECD), TTDC played a vital role in providing feedback to ECD and the Department of Revenue on the overall structure of the TNInvestco program. Through TTDC's Tennessee Capital Formation Board, we conducted extensive research on capital formation strategies and program implementation and development. The resulting program, and subsequently expanded program, now provides critical capital to support commercialization of potentially transformative technologies from businesses that call, or will call, Tennessee "home." The potential economic impact resulting from this state investment is enormous but requires skilled, ongoing support to ensure maximum success.

Given the expertise of our management team, board, committee members and key program partners, we are uniquely positioned to assist, prepare, train and connect high-potential entrepreneurs and scientific researchers to appropriate sources of capital – including TNInvestco firms – to finance innovative technologies. We look forward to continuing to work in partnership with ECD to provide the necessary supports to these leading investment firms to build the culture and environment that is both supportive and attractive to leading-edge science and technology businesses.

- **Entrepreneurship**

### TTDC Expands Tennessee Enterprise Network (TEN)

In partnership with respected organizations across the state, TTDC expanded its efforts to further develop training/education programs and provide key support services to high-potential entrepreneurs. These programs and services have helped prepare entrepreneurs for TTDC's second Innovation Conference & Venture Showcase, which was attended by over 200 people across the state and featured 40 leading scientists, 30 venture capitalists, 18 entrepreneurs and 14 industry experts with the main goal of increasing direct funding to promising new technologies.

The table below highlights TTDC investments in key program areas during fiscal year 2010:

<b>TTDC PROGRAMS, PARTNERS &amp; INVESTMENT</b> <i>(Jul. 1, 2009 - Jun. 30, 2010)</i>			
Area of Focus	Program Focus	Program Partners	Total (\$)
Strategic Research	Tech Maturation	Various	498,975
Entrepreneurship	Innovation Capacity Grants	Memphis Bioworks Foundation	180,000
		Nashville Entrepreneurship Center	100,000
Entrepreneurship	Mentorship	Tech 2020 (CEG)	100,000
		ETSU Innovation Lab	60,000
		Mercury Technology Labs	25,000
		Digital Nashville	20,000
Strategic Research	R&D 2020	UT Research Foundation	66,000
		UT Space Institute	24,910
All	TTDC Innovation Conference	Various	77,593
All	All	Various	11,986
<b>Total</b>			<b>1,164,464</b>

### Financial Status of Fiscal Year 2010

Total revenue for FY 2010 totaled approximately \$2.1 million, up from approximately \$1.4 million the previous year as TTDC ramped up its programming activities. Total expenses for the year amounted to approximately \$2.3 million, up from approximately \$1.4 million the previous year.

From a balance sheet perspective, total assets amounted to approximately \$1.3 million, mostly in the form of cash & cash equivalents. Total liabilities amounted to approximately \$1.1 million, most of which includes a refundable advance of \$720,000 due the state of Tennessee Department of Economic and Community Development and approximately \$182,000 in accrued liabilities. Total Net Assets were approximately \$215,000 at the end of the fiscal year.

## TTDC Organizational Structure

Created by the Legislature in 1998, TTDC is similar in structure to many state-sponsored technology-based economic development organizations in the U.S.:

- TTDC is a private, not-for-profit 501(c)(3) corporation created by the state but intentionally positioned outside state government.
- As a quasi-governmental, public/private partnership, TTDC can enter into certain transactions that a government agency cannot, such as financially supporting private sector non-profit entities and for-profit businesses.
- The organization's governance systems (with 15 of its 22 board members appointed by government officials) and the organization's reliance on state funding for operations provide an effective system of checks and balances to ensure accountability to state government for its operations.

### Mission

The purpose and mission of TTDC is defined in statutes and cannot be changed without an act of the Legislature.

The purposes of the corporation are:

- a) To contribute to the strengthening of the economy of the state through the development of science and technology; and
- b) To promote the development of Tennessee businesses by supporting the transfer of science, technology, and quality improvement methods to private and public enterprises.

Duties of TTDC as provided in statutes:

1. Assist in evaluating statewide innovation capacity as measured by new technology business starts, research disclosure and patent generation, venture capital availability and investment, public and private research and development expenditures, and research commercialization efforts;
2. Assist in the development, attraction and retention of diverse high-skill and high-wage jobs in Tennessee and attract prominent leaders in industry, research and education to Tennessee, ensuring the talent exists within Tennessee to foster innovation;
3. Support and improve technology transfer and commercialization mechanisms from research organizations, universities and business;
4. Increase the availability of capital to perform applied research, develop technology and stimulate new technology business creation and growth in Tennessee;
5. Assist in the development of physical infrastructure required for a technology and innovation driven economy;

6. Stimulate entrepreneurship and create an entrepreneurial culture in Tennessee;
7. Assist in establishing cooperative and collaborative associations between universities, research organizations, and private enterprises in Tennessee for the purpose of coordinating research and development programs that will aid in the creation of new products, services and jobs in Tennessee; and
8. Provide financial assistance through contracts, grants and loans to programs of scientific and technological research and development.

### Board of Directors

TTDC is governed by a 22-person board of directors. As of November 1, 2010, there were three vacancies and/or members serving with expired terms on the board.

By design and law, 14 of the board members are to be appointed from the private sector – three are appointed by the governor, two each by the speaker of the house and the speaker of the senate, and seven by the TTDC board. Seven board members are to be appointed from the public sector – three by the governor and two each by the speaker of the house and the speaker of the senate. Of these board members, one of the governor's appointees is to be selected from a slate of three candidates provided by the Tennessee Municipal League or the Tennessee County Services Association. Mayor Bill Haslam of Knoxville fills this seat on the board.

Dr. William Evans, CEO and Director of St. Jude Children's Research Hospital, was elected chair of the board by members present at the July 17, 2008, board meeting and was subsequently approved by unanimous consent by all active board members. Dan Marcum is immediate past-chair and remains a member of the board.

The board has an executive committee charged with administering the day-to-day operations of TTDC. Dr. Evans chairs this five-person committee. The board is in the process of nominating members to serve on two additional oversight committees – audit and compliance; and governance and organization.

The TTDC board has created four strategic operating committees that have certain characteristics of stand-alone boards, two of which – the **Tennessee Strategic Research Board** and the **Tennessee Capital Formation Board** – have been organized and have held meetings. TTDC is evaluating how the remaining two committees will be structured. These committees are intended to provide thought leadership and strategic direction on complex issues affecting economic growth in the 21<sup>st</sup> century. The committees include TTDC directors, as well as individuals recognized throughout the state for their specific expertise. Through this organizational structure, TTDC maintains a relatively small staff while aspiring to retain highly competent professionals with the ability to interact with scientists, venture capitalists and technology entrepreneurs.

**TTDC Board of Directors, as of November 1, 2010:**

***Ex Officio***

Matt Kisber  
Commissioner  
Tennessee Department of Economic and Community Development

***Appointed by Governor, public sector***

Bill Haslam	Craig Fitzhugh	Ron Washington
Mayor	Representative	Councilman
City of Knoxville	Tennessee General Assembly	Murfreesboro City Council

***Appointed by Governor, private sector***

Kevin Humphries	Kenneth Holroyd, MD, MBA	J. Stewart Witzeman, Ph.D.
SVP, Technology Systems	Asst. Vice Chancellor, Research	Director, Research Division
FedEx Services	Vanderbilt University	Eastman Chemical Company

***Appointed by House Speaker, public sector***

Mark Maddox	Paula Short, Ph.D.
Representative	Vice Chancellor, Academic Affairs
Tennessee General Assembly	Tennessee Board of Regents

***Appointed by House Speaker, private sector***

William Evans, Pharm. D. *^	Ted Nelson^
Director & CEO	Chairman
St. Jude Children's Research Hospital	Mill Masters, Inc.

***Appointed by Senate Speaker, public sector***

Mark Norris	Open
Senate Majority Leader	
Tennessee General Assembly	

***Appointed by Senate Speaker, private sector***

Dan Marcum	Mike Neiderhauser
Managing Partner	Owner
Marcum Capital	MN Rentals

***Appointed by TTDC Board of Directors***

Thomas Ballard^	Bruce Doeg^	Jim Frierson
Director, Partnerships Directorate	Chair, Business Dept.	Executive Director
Oak Ridge National Laboratory	Baker Donelson	Advanced Transportation Technology Institute

James Phillips^	Andrew Seamons	Leslie Wisner-Lynch, DDS, DMsc
CEO	Managing Partner	Executive Director
Pinnacle Enterprises	Pittco Capital Partners	BioTN Foundation

Ron Feinbaum  
Executive Vice President  
Scripps Networks

\* TTDC Board Chairman

^ Executive Committee Member

## Operating and Oversight Committees

1. The **Tennessee Strategic Research Board** advises and directs TTDC investments that support and grow the technology research base in Tennessee; facilitates sponsored research between private sector companies and universities; and increases the flow of innovations from laboratories to the private sector.

### Members of the Tennessee Strategic Research Board, as of November 1, 2010:

James Downing, MD Scientific Director St. Jude Children's Research Hospital	Dennis Hall, Ph.D. Vice Provost of Research Dean of the Graduate School Vanderbilt University	Russell Poland, Ph.D. VP of Research Meharry Medical College
David Millhorn, Ph.D. Executive Vice President and Vice President of Research University of Tennessee System	James Roberto, Ph.D. Director of Strategic Capabilities Oak Ridge National Laboratory	Bruce Opie Deputy Commissioner of Education Tennessee Department of Education
Claude Pressnell, Ph.D. President TN Independent Colleges & Universities Association		

### Representing TTDC:

James Frierson, Advanced Transportation Technology Institute  
Kenneth Holroyd, MD, Vanderbilt University Medical Center  
Leslie Wisner-Lynch, DDS, DMSc, BioTN Foundation  
Stewart Witzeman, Ph.D., Eastman Chemical

2. The **Tennessee Capital Formation Board** advises on state policies and investments that increase the supply and accessibility of risk capital investment for high-potential technology businesses.

### Members of the Tennessee Capital Formation Board, as of November 1, 2010:

Michael Blackburn Managing Partner Petra Capital Partners	Michael Devlin Co-Founder, Managing Partner Pharos Capital Group	Townes Duncan President Solidus
Kathy Harris Partner Noro-Moseley	Chris Kyriopoulos Co-Founder & Principal Compound Funds	Gary Stevenson Managing Partner MB Venture Partners
Grady Vanderhoofven Fund Manager Merit Ventures	Casey West General Partner SSM Partners	Tom Wylly Senior Partner Brentwood Capital

### Representing TTDC:

Bruce Doeg, Baker Donelson  
Dan Marcum, Marcum Capital  
Jim Phillips, Pinnacle Enterprises  
Andrew Seamons, Pittco Capital Partners

## Management Team

Since its revitalization in 2007, TTDC has operated as a lean organization in order to minimize administrative costs and maximize its investment in technology-based economic development programs throughout the state. TTDC concluded the fiscal year 2010 ended June 30 as an even leaner organization with a stronger, more balanced management team. TTDC intends to keep staffing at low levels in fiscal year 2011 and has developed an operations plan that will leverage the talents of its existing team in order to maximize the state's investment in programming initiatives that will produce both near- and long-term benefits.

President/CEO: **Dr. Leslie Wisner-Lynch, D.D.S., D.M.Sc.**, is Interim President & CEO of TTDC. She has served as a member of the TTDC Board of Directors since 2007, where she held the office of second vice-chair. She also serves as the executive director of the BioTN Foundation, a not-for-profit designed to serve as a leading resource for improving life sciences education and business growth in Tennessee, through leadership in STEM education, workforce training and economic development initiatives. She previously served as the Director of Applied Research for BioMimetic Therapeutics, Inc., in Franklin, TN, where she provided clinical and scientific expertise for products under development and in commercialization for use in craniomaxillofacial and skeletal regeneration. She also currently serves as chair of the life sciences committee for Middle Tennessee Mind2Marketplace, is a member of the Tennessee Valley Corridor Board of Directors and is Chairperson of the Board of Directors for the recently approved STEM Prep Academy charter school in Metro Nashville. Most recently, she was appointed by Governor Bredesen to serve as his designated Chair for the STEM Innovation Network Advisory Council as part of Tennessee's First To The Top education reform initiative. Dr. Wisner-Lynch holds a B.S. in Chemistry from Lamar University, a D.D.S. from the Medical College of Virginia and a certificate of surgical specialty in periodontics and a D.M.Sc. from Harvard Medical School.

Vice President of Operations: **James Stover, Ph.D.**, is Vice President of Operations for TTDC and responsible for the TTDC Technology Maturation Fund Initiative and for developing programs and services overseen by the Tennessee Capital Formation Board. Prior to joining TTDC, James was a life science and technology analyst with Square 1 Bank in San Diego, CA, and a senior research fellow in medicinal chemistry at the Scripps Research Institute. He has consulted with a number of early-stage companies in the areas of capital formation and management recruitment. He is a member of the Southeast Venture Group and serves on a public policy committee for the National Association of Seed and Venture Funds. James holds a B.S. in Biochemistry from the University of Virginia and a Ph.D. in Chemistry from Vanderbilt University, where he was a National Institute of Health Grant recipient. As a member of the Vanderbilt football team, James was also a First-Team Academic selection in the Southeastern Conference.

Director of Finance & Administration: **Steve Wonsiewicz** is Director of Finance & Administration for TTDC and has nearly 20 years of experience working for financial services and B2B publishing companies in the U.S., Great Britain and the Netherlands. Prior to joining TTDC, Steve worked as a portfolio manager for an independent financial advisor and as a relationship manager in the commercial banking department for a national bank. Before that, he was co-founder of American Hometown Publishing, a community newspaper publisher based in Franklin, TN. Steve also is a member of the Board of Directors for Tennessee Voices for Children, a non-profit advocacy group involved with children's mental health issues. Steve holds an M.B.A. in Finance from the University of San Francisco and a B.S. in Communications from the University of Tennessee, Knoxville.